

METHOD AND APPARATUS FOR THREE DIMENSIONAL INSPECTION OF  
ELECTRONIC COMPONENTS

ABSTRACT OF THE DISCLOSURE

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10 A three dimensional inspection method for inspecting ball  
5 array devices having a plurality of balls, where the ball array  
device is positioned in an optical system. The inspection method  
includes the steps of illuminating at least one ball on the ball  
array device, and disposing a sensor, a first optical element and  
a second optical element in relation to the ball array device so  
10 that the sensor obtains at least two differing views of the at  
least one ball, the sensor providing an output representing the  
at least two differing views. The output is processed using a  
triangulation method to calculate a three dimensional position of  
the at least one ball with reference to a pre-calculated  
15 calibration plane.